

## WHAT IS CLAIMED IS:

1. A method of generating a feasible schedule for  $n$  jobs given a duration and a revisit time for each job, comprising:

determining whether it is impossible to generate a feasible schedule;

5

determining whether a round robin schedule is possible;

calculating theoretical probabilities;

calculating actual probabilities;

creating a potential schedule based on the theoretical probabilities and the actual probabilities; and

10

searching for a feasible schedule from the potential schedule.

2. The method of claim 1, wherein determining whether it is impossible to

generate a feasible schedule comprises determining whether  $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} > 1$  is

satisfied.

15

3. The method of claim 1, wherein determining wherein determining whether a

round robin schedule is possible comprises determining whether  $\sum_{i=1}^n \tau_i \leq u_i$  is

satisfied.

20

4. The method of claim 1, wherein calculating theoretical probabilities comprises

selecting a  $z_i \geq \frac{\tau_i}{\tau_i + k \cdot u_i}$ ,  $i = 1, \dots, n$ , such that  $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} = 1$ .

5. The method of claim 4, wherein selecting the  $z_i \geq \frac{\tau_i}{\tau_i + k \cdot u_i}$ ,  $i = 1, \dots, n$ , such

that  $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} = 1$  comprises one of  $z_i = \frac{\tau_i(\tau_i + u_i)^{-1}}{\sum_{j=1}^n \frac{\tau_j}{\tau_j + u_i}}$  or  $z_i = \frac{1}{\tau_i + k \cdot u_i}$  with k

independent of  $i = 1, \dots, n$ .

5

6. The method of claim 4, wherein calculating theoretical probabilities further

comprises calculating a  $q_i = \frac{z_i}{\sum_{j=1}^n z_j}$ ,  $i = 1, \dots, n$ .

7. The method of claim 1, wherein calculating the actual probabilities comprises

10 calculating  $\frac{N_i}{N}$ ,  $i = 1, \dots, n$ .

8. The method of claim 1, wherein creating a potential schedule based on the theoretical probabilities and the actual probabilities comprises storing results from

$j = \operatorname{argmax}_{i=1, \dots, n} d_i$ , wherein  $d_i$  is the difference between the theoretical

15 probabilities and the actual probabilities.

9. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method of generating a feasible schedule, comprising:

determining whether it is impossible to generate a feasible schedule;

determining whether a round robin schedule is possible;  
calculating theoretical probabilities;  
calculating actual probabilities;  
creating a potential schedule based on the theoretical probabilities and the  
5 actual probabilities; and  
searching for a feasible schedule from the potential schedule.

10. A system of generating a feasible schedule comprising:

means for calculating theoretical probabilities;  
10 means for calculating actual probabilities;  
means for creating a potential schedule based on the theoretical  
probabilities and the actual probabilities; and  
means for searching for a feasible schedule from the potential schedule.